

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF:

GROUP:

Boris BRONFIN, et al

SERIAL NO.:

EXAMINER:

FILED: Concurrently herewith

FOR: HIGH STRENGTH CREEP RESISTANT MAGNESIUM ALLOYS

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents  
& Trademarks  
Washington, DC 20231

S I R:

Please amend the application as follows:

IN THE CLAIMS:

Please delete claims 3, 4, 5 and 7-20 from the application and substitute new claims 21-40 therefor.

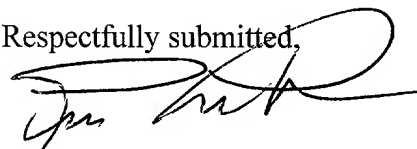
REMARKS

Applicants are submitting this Preliminary Amendment to delete multiple dependent claims from the application and replace them with proper, non-multiple dependent claims.

It is respectfully requested that these new claims be considered and made of record in the application.

Any necessary fees in connection with the filing of this application should be deducted from Deposit Account No. 01-1944.

Respectfully submitted,

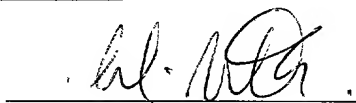


Eugene Lieberstein  
Reg. No. 24,645

ANDERSON, KILL & OLICK  
1251 Avenue of the Americas  
New York, New York 10020-1182  
(212) 278-1000

#### MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express mail in an envelope addressed: Commissioner of Patents & Trademarks, Washington, DC 20231 on January 3, 2002. Label No.: EL179766978US



Date: 1/03/02

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## CLAIMS

21. (New) An alloy according to claim 1, comprising up to 0.001 wt% beryllium.

22. (New) An alloy according to claim 2, comprising up to 0.001 wt% beryllium.

23. (New) An alloy according to claim 1, further comprising incidental impurities.

24. (New) An alloy according to claim 1, which contains 5.9 to 7.2 wt% aluminum, 0.9 to 2.1 wt% tin, 2.1 to 3.1 wt% calcium, and 0.2 to 0.35 wt% manganese.

25. (New) An alloy according to claim 2, which contains 5.9 to 7.2 wt% aluminum, 0.9 to 2.1 wt% tin, 2.1 to 3.1 wt% calcium, and 0.2 to 0.35 wt% manganese.

26. (New) An alloy according to claim 21, which contains 5.9 to 7.2 wt% aluminum, 0.9 to 2.1 wt% tin, 2.1 to 3.1 wt% calcium, and 0.2 to 0.35 wt% manganese.

27. (New) An alloy according to claim 1 having high tensile yield strength (TYS) and compressive yield strength (CYS) both at ambient temperature and at elevated temperatures up to 200°C.

28. (New) An alloy according to claim 1 having high creep resistance both at ambient temperature and at temperatures elevated up to 200°C.

29. (New) An alloy according to claim 1 exhibiting a marked response to ageing at 250°C, wherein tensile yield strength, compressive yield strength, and creep resistance increase.

30. (New) An alloy according to claim 1 which is beryllium free.

31. (New) An alloy according to claim 1, which exhibits tensile yield strength at ambient temperature higher than 170 Mpa and tensile yield strength at 175°C higher than 150 Mpa.

32. (New) An alloy according to claim 1, which exhibits minimum creep rate (MCR) less than  $1.7 \times 10^{-9}/s$  at  $150^{\circ}C$  under stress of 100 Mpa.

33. ((New) An alloy according to claim 1, which exhibits minimum creep rate less than  $4.9 \times 10^{-9}/s$  at  $200^{\circ}C$  under stress of 55 Mpa.

34. (New) An alloy according to claim 1, which exhibits improvements of its strength in course of temperature ageing at  $250^{\circ}C$  for 1 hour.

35. (New) An article which is a casting of a magnesium alloy of claim 1.

36. (New) An article of claim 35, wherein the casting is chosen from the group consisting of high-pressure die-casting, sand casting, permanent mold casting, squeeze casting, semi-solid casting, thixocasting and thixomolding.

37. (New) An article according to claim 35 which exhibits tensile yield strength at ambient temperature higher than 170 Mpa and tensile yield strength at  $175^{\circ}C$  higher than 150 Mpa.

38. (New) An article according to claim 35 which exhibits minimum creep rate (MCR) less than  $1.7 \times 10^{-9}/s$  at  $150^{\circ}C$  under stress of 100 Mpa.

39. (New) An article according to claim 35 which exhibits minimum creep rate less than  $4.9 \times 10^{-9}/s$  at  $200^{\circ}C$  under stress of 55 Mpa.

40. (New) An article according to claim 35 which was subjected to temperature ageing at  $250^{\circ}C$  for 1 hour.